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APPENDIX: 4

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for Airworthiness (HBAW)

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BULLETIN TITLE: Checklist for Instructions for Continued
Airworthiness for Major Alterations
Approved Under the Field Approval Process

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1. PURPOSE. This bulletin is in response to Federal Aviation Administration (FAA) field requests for guidance on what constitutes acceptable Instructions for Continued Airworthiness (ICA) for major alterations accomplished under a Field Approval, as addressed by Flight Standards Information Bulletin for Airworthiness FSAW 98-03. This bulletin includes an ICA checklist which was developed using extensive regional office and field inspector input.

A. The purpose of the ICA is to provide instructions on how to maintain aircraft which are altered and appliances which are installed in accordance with a field approved major alteration. The ICA checklist is a guide for both the applicant who creates the ICA and the FAA Flight Standards inspector who accepts the ICA. The ICA developed in accordance with this guidance constitutes methods, techniques and practices "acceptable" to the Administrator. If the ICA for the submitted field approval major alteration is not acceptable to the FAA inspector, that inspector should not sign Block 3 of the applicant's FAA Form 337, Major Repair and Major Alteration.

B. The purpose of the ICA being addressed in Block 8 of Form 337 is to provide the aircraft owner/operator with the following three advantages:

- (1) The major alteration and reference to ICA are contained in one document;
- (2) The ICA becomes a permanent aircraft record as required by Title 14 of the Code of Federal Regulations (14 CFR), section 91.417(a)(2)(vi); and
- (3) The owner/operator can contact FAA registry for a replacement FAA Form 337 if the ICA is lost or destroyed. The additional reference to the presence of ICA as part of the major alteration in the aircraft's maintenance entry, will ensure that maintenance personnel appropriately address ICAs during future inspections.

2. BACKGROUND. Prior to January 1998, FAA's policy did not require ICAs when additional appliances were installed on aircraft as a major alteration under the FAA Field Approval process. Maintenance personnel did not have instructions on hand regarding how to service, maintain, inspect, and replace those newly installed appliances or equipment. Without ICAs, a mechanic performing maintenance on items installed under a field-approved major alteration could be in violation of part 43, section 43.13(a).

A. In order to standardize the major alteration field approval process, the Continuous Airworthiness Maintenance Division, AFS-300, issued FSAW 98-03 in January 1998. The bulletin formalized FAA Policy to require ICA from the effective date of the bulletin for all field-approved major alterations permitted by FAA Order, 8300.10, Airworthiness Inspectors Handbook; vol. 2, chapter 1.

B. The reasons for an ICA are twofold. The first reason is to ensure that Flight Standards Service's Field Approval Policy is in line with part 21, section 21.50, which requires ICA for the holder of a type certificate or an Supplemental Type Certificate (STC) applied for after January 1981.

C. The second reason for an ICA is to provide the certificated person performing an inspection or maintenance on the field-approved major alteration, with instructions on how to maintain that change to the aircraft's type design, as required by section 43.13(a) and section 43.16.

3. DISCUSSION.

A. The ICA is to be developed by the applicant and presented in conjunction with the field approval request. An ICA is accepted by the FAA inspector if it meets the applicable requirements in sections 23.1529, 25.1529, 27.1529, 29.1529, 31.82, 33.4 and 35.4. The checklist attached to this handbook bulletin is a guide so the applicant can be assured that all applicable requirements are met.

B. For field-approved major alterations to aircraft, engines, and propellers certificated under the Civil Air Regulations (CAR), the ICA must meet the original type design requirements. In cases where the major alteration is a total new design, or of substantial complete redesign, which the CAR did not address, the major alteration must meet the applicable 14 CFR (ref.: section 21.101.) The checklist will provide acceptable guidance for these types of installations.

C. The ICA requirements are the same for a field-approval or STC. However, the vast majority of field approved major alterations are simplistic in design and execution. Therefore the applicant's ICA may not need as much detail as an ICA required for a complicated STC. Because of a legal interpretation on use of manufacturers' proprietary instructions, in order to reference the manufacturers' service instructions, the applicant must secure the manufacturers' permission. Once the manufacturer's permission is obtained, those instructions may be "referenced" in the ICA. If the manufacturers' instructions are not available, the applicant may use FAA publications such as Advisory Circular (AC) 43.13-1B and (AC) 43.13-2A, appendix D of part 43, as revised, or other applicable aviation standards to develop the ICA.

D. For field approval installations that also incorporate STC or Designated Engineering Representative(DER)data, the ICA should incorporate or reference the DER/STC maintenance instructions or the STC's ICA.

E. The owner/operator should be made aware that field approved and STC installed equipment are required to be operational, unless specifically listed on the MMEL/MEL for the aircraft.

F. Under this new policy, field-approved major alterations approved under the field approval process prior to the effective date of FSAW 98-03, are not required to have an ICA. However, if an owner/operator wishes to formally incorporate ICA for existing field-approved major alterations, they may do so using the revision process in the checklist's item #16.

4. LOCATION. The material covered in this bulletin shall be incorporated in FAA Order 8300.10, Airworthiness Inspector's Handbook; volume 2, chapter 1. Until this material is incorporated into the handbook, inspectors should make a note of this bulletin in the margin of the affected chapter.

/s/

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Attachment

ATTACHMENT

Field Approval, Major Alteration Instructions for Continued Airworthiness Checklist

ICA Check List

The ICA submitted by the applicant should address all 16 items on this checklist and be included or referenced on Block 8 of Form 337. If referenced, the ICA document must be physically attached to Form 337. However, many kinds of equipment, including avionics, require little or no maintenance during their lifetime. Some equipment cannot be field repaired, and most are "remove and replace" items only. For these and similar pieces of equipment, some of the checklist items may not apply. If an item such as Special Tools does not apply, simply put N/A after the check list item.

1. Introduction: This section briefly describes the aircraft, engine, propeller, or component that has been altered. Include any other information on the content, scope, purpose, arrangement, applicability, definitions, abbreviations, precautions, units of measurement, referenced publications, and distribution of the ICA as applicable.
2. Description: Of the major alteration, its functions, including an explanation of its interface with other systems, if any.
3. Control, operation information: Or special procedures, if any.
4. Servicing information: Such as types of fluids used, servicing points, and location of access panels, as appropriate.
5. Maintenance Instructions: Such as recommended inspection/maintenance periods in which each of the major alteration components are inspected, cleaned, lubricated, adjusted, tested, including applicable wear tolerances and work recommended at each scheduled maintenance period. This section can refer to the manufacturers' instructions for the equipment installed where appropriate (e.g., functional checks, repairs, inspections.) It should also include any special notes, cautions, or warnings, as applicable.
6. Trouble shooting information: Information describing probable malfunctions, how to recognize those malfunctions, and the remedial actions to be taken.
7. Removal and replacement information: This section describes the order and method of removing and replacing products, parts and any necessary precautions. This section should also describe or refer to manufacturer's instructions to make required tests, trim checks, alignment, calibrations, center of gravity changes, lifting or shoring, etc., if any.
8. Diagrams: Of access plates and information, if needed, to gain access for inspection.
9. Special inspection requirements: Such as X-ray, ultrasonic testing, or magnetic particle inspection, if required.
10. Application of protective treatments: To the affected area after inspection and/or maintenance, if any.
11. Data: Relative to structural fasteners such as type, torque, and installation requirements, if any.
12. List of special tools: Special tools that are required, if any.
13. For commuter category aircraft: The following additional information must be furnished, as applicable:

- A. Electrical loads
- B. Methods of balancing flight controls
- C. Identification of primary and secondary structures
- D. Special repair methods applicable to the airplane.

14. Recommended overhaul periods: Are required to be noted on the ICA when an overhaul period has been set by the manufacturer of a component, or equipment. If there is no overhaul period, the ICA should state for item 14: "No additional overhaul time limitations."

15. Airworthiness Limitation Section: Include any "approved" airworthiness limitations identified by the manufacturer or FAA Type Certificate Holding Office (e.g., An STC incorporated in a larger field approved major alteration may have an airworthiness limitation.) The FAA inspector should not establish, alter, or cancel airworthiness limitations without coordinating with the appropriate FAA Type Certificate Holding Office. If there are no changes to the airworthiness limitations, the ICA should state for item 15: "No additional airworthiness limitations" or "Not Applicable."

16. Revision: This section should include information on how to revise the ICA. For example, a letter will be submitted to the local FSDO with a copy of the revised FAA Form 337 and revised ICA. The FAA inspector accepts the change by signing Block 3 and including the following statement:

"The attached revised/new Instructions for Continued Airworthiness (date_____) for the above aircraft or component major alteration have been accepted by the FAA, superceding the Instructions for Continued Airworthiness (date_____)." Once the revision has been accepted, a maintenance record entry will be made, identifying the revision, its location, date of the Form 337.

17. Assistance: When the Flight Standards Inspectors' has any questions regarding ICA or needs assistance with ICA, they may contact the appropriate Aircraft Evaluation Group listed below:

Product Type	AEG Office	Name	Phone Number
Transport Airplane	Seattle AEG	George Sedlack	(425) 227-2295
Transport Airplane	Long Beach AEG	Lee Koegel	(562) 627-5288
Small Aircraft (GA)	Kansas City AEG	Bill Palmerton	(816) 426-3946
Rotorcraft and Power Lift Aircraft	Fort Worth AEG	E. Richard Thomas	(817) 222-5272
Engine and Propeller	Boston AEG	William Machado	(781) 238-7887

18. Implementation and Record Keeping: For major alterations performed in accordance with FAA Field Approval policy, the owner/operator operating under part 91 is responsible for ensuring that the ICA is made part of the applicable section 91.409 inspection program for their aircraft. This is accomplished when a maintenance entry is made in the aircraft's maintenance record in accordance with section 43.9. This entry records the major alteration and identifies the original ICA location (e.g., Block 8 of FAA Form 337, dated 5/28/98) along with a statement that the ICA is now part of the aircraft's inspection/maintenance requirements.

For major alterations performed in accordance with a field approval on air carrier aircraft, the air carrier operator is responsible for ensuring that the ICA is made part of the applicable inspection/maintenance program for their aircraft. If a procedure is not currently included in the operator's manual to incorporate ICA, this process will need to be appropriately addressed (i.e. the operator submits a revision to its maintenance program to the applicable certificate-holding district office (CHDO)).

For aircraft inspected under an Approved Aircraft Inspection Program (AAIP), the operator will submit a change to the CHDO in accordance with section 135.419 b).

For air carrier aircraft inspected using an annual/100 hour inspection program, a reference to the new ICA will be made in the aircraft's maintenance record in accordance with section 43.9. This entry records the major alteration and identifies the original ICA location (e.g., ICA are located/attached to Block 8 of FAA Form 337, dated 5/28/98). In addition, the operator will request a revision to the operator's Operations Specifications, additional maintenance requirements, which incorporates the ICA into the inspection program.